mach. Was it due to the manner in which the poison was taken? It probably was swallowed rolled up between morsels of bread, so as to give the least possible offence to the palate. We may fairly attribute the recovery in some degree to this circumstance; for if the vomiting occurred promptly it must have evacuated most of the poison before it was dissolved or detached from the bread. We do not know how much of the result to attribute to each of the remedial measures employed. They were administered pretty much altogether, and the improvement was observed, and was steadily progressive almost from the first moment.

ART. IX.—*Report of a Trial for Malpractice in the Court of Common Pleas of Perry County, Pennsylvania.* By ISAAC LEFEVER, M.D., one of the Associate Judges of the Court.

Mary Jane Colyer, who is a minor, and sues by her next friend and father Nathan Colyer, *vs.* Drs. Philip Ebbert and Patrick M'Morris.	No. 28, August T., 1863. Summons in Trespass in the case. Defendants plead Not Guilty.
Attorneys for Plaintiff— B. F. Junkin, Esq., W. A. Sponsler, Esq., of New Bloomfield, Pa. For Defendants— Wm. H. Miller, Esq., of Carlisle, C. J. T. M'Intire, Esq., of New Bloomfield, Lewis W. Potter, Esq., " "	Ninth Judicial District of Pa. Hon. Jas. H. Graham, President Judge.

Sponsler for Plaintiff.—The case in which you have just been sworn is one of vast importance. Mary J. Colyer *vs.* Drs. Ebbert and M'Morris. Cause of Complaint. Father lives in Penn Township, Dr. Ebbert also in Penn Township, and Dr. M'Morris in Buffalo. In January, 1858, Mrs. Colyer was confined—sent for Drs. Ebbert and M'Morris. Through alleged misconception of duty during labour or without cause they amputated the arm of the child. There was, what the doctors called, an arm presentation, and before the child was born they cut one arm off, thus maiming the child for life. For this conduct this suit is brought for damages. Some of our witnesses are ladies; they are disposed often to tell counsel as little as possible. We can only give facts. Dr. Ebbert was sent for in the evening—staid till 2 or 3 A.M. next morning. The arm presented; from this time until 11 or 12 o'clock he allowed the woman to lie without any effort to relieve her. Dr. M'Morris came at this time. First thing he did was to cut off the arm, and broke the bone. Child was then born by effort of nature. Physicians were of no use but to cut off arm. When you hear the evidence, you will render just such a verdict as is right in law.

Evidence for plaintiff.—Mrs. Elizabeth Keel, sworn. I knew Mrs. Colyer, wife of Nathan Colyer, in her lifetime. I was present when she was sick. Remained until morning, went home about daylight, and was at home about

an hour, and then went back again. I then remained until about 11 or 12 M. Mary Jane was born when I was absent. Dr. Ebbert came about an hour after I got there the first time. Mrs. Colyer was in bed from the evening until the next morning. According to best of my recollection, between 3 and 4 A.M. the arm came into the world. Dr. Ebbert and I were the only persons there at that time. Dr. Ebbert, when the arm was born, went to her, examined her, and said he could do nothing until another physician was brought. From between 2 and 3 in the morning until I left, between 11 and 12, Dr. Ebbert did not do anything to relieve Mrs. Colyer, *"as I saw."* On my way home, between 11 and 12 o'clock, I met Dr. M'Morris going to Colyer's. Dr. Ebbert said he wanted no other doctor but Dr. P. M'Morris to be sent for, when arm presented. When I came back again the child was born. When I went home, I remained not much more than half an hour.

Cross-examination.—Arm presented between 3 and 4 A.M. Dr. Ebbert went and examined immediately. He was with her for a while; cannot tell how long he worked with her. Could not see what was done, because bedclothes were over Mrs. Colyer. Dr. Ebbert through the night gave her medicine and tea. When arm presented he gave her medicines; what it was for I cannot tell. Remember Dr. Ebbert said the medicines were given for the purpose of allaying the spasmodic contractions or efforts of the mother. Dr. Ebbert said the contractions were so great he could not get his hand in to turn the child. After efforts made by Dr. Ebbert, he appeared a good deal exhausted. Mrs. Colyer appeared very much exhausted also, and appeared very bad. Vessels were put under the bed to catch drippings, as near as I can tell, immediately after the arm presented. Could hear something dropping through the bed into vessels; could not tell what it was. She was wasting, and appeared to be sinking very rapidly from that time until the child was born. This dropping I heard at times until I left. Sounded like a woman flooding—but whether it was blood or what it was, I cannot say. I was here at the last court, and was examined in M'Intire's office. Then said I saw the bed was very bloody—it was bloody. The bed was very wet—could not say it was all blood. There was present Sallie Murphy, a sister of Mrs. Colyer, who attended mostly to her. She came between 9 and 10 A.M., and after that did most of the attendance. Do not remember of seeing blood on floor—it might have been so, but may have slipped my memory. Sallie Murphy is now out west somewhere. Mrs. Colyer died last October a year.

In chief, resumed.—Mrs. Colyer had seven children in all before she died. Mary Jane was the youngest. At the time of presentation of arm, do not recollect that Dr. Ebbert took off his coat or rolled up his sleeves —might have done so. Saw Dr. Ebbert make but one examination after arm presented. Cannot remember distinctly when this occurred.

Cross-examination resumed.—I was not in the room all the time. I was out and in the room. Dr. Ebbert might have made more than one effort.

Mrs. Sarah Smith, sworn.—I was at Mrs. Colyer's when the arm was taken off. Dr. P. M'Morris took the arm off. Dr. Ebbert was there at the same time. M'Morris tried to turn the child, but said he could not turn it. From the time the arm was taken off until the child was born was 15 minutes. Dr. M'Morris turned the child.

Cross-examination.—Before arm was taken off Dr. M'Morris made a strong effort to turn the child, and said that he could not. At the time

Dr. M'Morris made this effort and failed, Mrs. Colyer was sinking very fast. At this time Miss Murphy put water into the mouth of Mrs. Colyer, to keep her revived. Mrs. Colyer plead with Dr. M'Morris for God's sake to take the child away and save her life. Mrs. Colyer said she believed the child was dead. Child was still-born, was laid by, supposed to be dead.

In chief resumed.—He amputated the arm with a knife, and then broke the bone. After the child was born, he took a saw and sawed the bone off. They used a carpenter's saw—a fine-tooth saw. Misunderstood former question. Dr. M'Morris tried to turn and failed before arm was amputated, turned afterwards and delivered it in about fifteen minutes.

Mrs. Mary Ann King, sworn.—Was at Mrs. Colyer's the night Mary Jane was born. Went there after the child was born. She was born on New Year's day—was six years old last New Year's day. Child is living, and is here.

Dr. W. W. Rutherford, sworn.—Reside in Harrisburg. Am a physician, and have been in practice over thirty years. I have heard the testimony; from that testimony I do not see anything that was accomplished in the way of delivery by the removal of the arm. I would like to state an impression, which is this: I do not believe that the gentlemen would have removed the arm, had they not been under the impression that the child was dead. I do not know the motive for removing the arm, unless it was to facilitate the operation of turning. The removal of the arm at the point it was removed would not, by any possibility, facilitate that operation. The practice in those cases is perfectly settled and fixed over the whole civilized world—it is to turn the child when an arm or a shoulder presents. The point is to watch and take advantage of the favourable moment to execute that movement—the operation of turning, I mean. If the mouth of the womb is tolerably dilated, soft, and dilatable, the membranes not ruptured, the shoulder presenting, then you introduce your hand into the uterus, and in introducing your hand, the bag of waters is usually broken, you seize the feet of the child, turn, and deliver it, feet foremost. Universal practice, if it can be adopted.

(Child exhibited, now in its seventh year; stump now about two inches long.)

If the membranes have ruptured spontaneously, there are some circumstances which will render it difficult. I have given you the most favourable aspect, the time of election. If the membranes have ruptured spontaneously, the waters run off, and the arm has descended, you take the earliest opportunity after this occurrence to introduce your hand, to seize the feet, turn the child, and deliver. If some time has elapsed between the rupture of the membranes and the protrusion of the arm previous to your being called, the womb may be so much contracted on the child, so tightly girthed upon it that it may be difficult to get the hand into the mouth of the womb so as to turn. The active contractions of the womb, the waters having run off, may make it dangerous for you to attempt to introduce your hand, the contractions of the womb being vigorous. The contractile efforts are greatly increased by attempts to introduce the hand. Fatal injury might result—a rupture of the uterus might occur. The standard practice in such cases is to reduce the irritability of the general system, and the local powers of the womb. If the patient is of a full sanguine temperament and plethoric, you bleed, and bleed largely. If this is not sufficient to bring down the power of the womb so as to admit the intro-

duction of the hand, you must use tart. ant. and laudanum, and continue treatment until womb is in such a condition as to allow you to introduce the hand. When you accomplish your end sufficiently, and have reduced general and local irritation, you introduce your hand, and turn and deliver the child. This purpose can, in almost every case, be accomplished by the means I have indicated. Modern science, however, has furnished us very recently with a remedy which enables us to succeed almost invariably in such cases—I mean anæsthetics. This remedy has been known for eighteen or twenty years. I think I have given it fifteen years ago myself. To my mind there is a strange point in this case. It is this: that at the same time there was exhausting hemorrhage, there was rigidity of the womb—two things utterly incompatible. I do not see that anything could be gained by removal of arm at the point it was removed. In ancient times they removed the arm at the shoulder to get the space occupied by the shoulder. Practice of amputating the arm at the shoulder has long been abandoned, and the practice never was to amputate at any other place. This is the standard practice taught in medical works. There might be cases where arm is presenting that it would be difficult to tell whether the child is living; we generally can tell. Mothers are often deceived as to whether the child is alive or dead.

Cross-examined.—Chloroform is not so dangerous as formerly; I never use it; I use ether; have been using it for the last fifteen years; use it altogether; never saw any bad effects from it; never had a case of arm presentation accompanied by hemorrhage before delivery; would not consider it added to danger, because you have the very means you want to reduce irritability of general system. Instanced a case of placenta prævia.

Dr. James King.—Live in Harrisburg; a physician; practised since March, 1838; I am now in State service, Surgeon-General of Pa. Have heard testimony of witnesses (of ladies). (Was conduct of Drs. E. and M. proper?) Evidently in an arm presentation indications are to turn into a footling presentation, and deliver by the feet. In an arm presentation, the child necessarily lies above brim of pelvis, head at one side, and hips at other; delivery is impossible, because length of the body of child is greater than width of pelvis; must bring one or other extremity of child into relation with pelvis. Question, then, is whether bring head or feet into cavity of pelvis. The practice which I believe to be correct is to bring feet down; head then descends. In this case, if election could have been made, the time to turn was just before the arm was born, because then, in all probability, the membranes burst, waters escaped, and with them the arm was thrust into the world. Before womb has emptied itself, and contracted upon child, there is this great space, when turning can be effected with facility. If the choice could not be made then, it is because the os uteri was not dilated or dilatable sufficiently to admit the hand. While that was the *probable* condition in this case, yet I am not *sure* that it was, because the evidence does not satisfy me that the womb was dilated or dilatable. The uterus not being dilated or dilatable, it would be duty to wait till it became so, using such means as Dr. Rutherford has detailed (though I am not in the habit of bleeding myself), to relax the parts, waiting as long as you can with safety—as long as no signs of exhaustion are present. The hemorrhage as it occurred, as shown, and the fact of the delivery of the child alive, enforce the conviction on my mind that turning, at the time it was performed, should have been made without the amputation of the arm. I cannot see

how the presence of the arm obstructed the delivery, nor any advantage gained by cutting it off, for this reason, that the difficulty in introducing the hand to bring down the feet is not in the presence of the arm, but from the contractions of the womb. Lest any undue weight should attach to my opinion, I beg leave to say that I have performed the operation of turning in but one single case. That was a case of twins—one born, the other was lying across the womb for about twenty-four hours before I was called; I succeeded in turning, and delivered. The only other case I saw was in a twin case at four or five months; here had nothing to do but to witness expulsion; children small. As to use of means, I refer to means to relax uterus, mentioned by Dr. Rutherford. I have used chloroform and ether for years, and am fond of them, but many eminent and distinguished men are opposed to their use. Would have used the remedy in this case, but would not hold professional brethren responsible when not used, because not universally adopted; would use anodynes, morphia, &c. Hemorrhage favours dilatation of the womb; would be a little afraid of uterine hemorrhage before delivery, but still would expect it to produce relaxation; would rather have the case without it.

Cross-examined.—When there is uterine hemorrhage, should deliver as soon as possible; should hesitate between mother and child—a very serious question; do not wish to discuss which should be sacrificed. Hemorrhage increased the danger; if child died, I would make short work; I would not take mother's impression as to its living; have not attended obstetric cases, except perhaps two or three, within last three years; have not read an entire chapter in an obstetric work in that time.

In chief.—Usually can ascertain whether child is living or not, by sounds of fœtal heart. Previous births have no tendency to facilitate births when there is an arm presentation, but usually have the effect of facilitating the overcoming of rigidity; no theory about protruding arm likely to hook on anything, nothing in books about it.

Dr. E. D. Crawford, sworn.—Am a physician, and have practised nearly twenty-one years. The general principles received have been fully laid before court; duty of attendant to make examination as soon as possible, and discover presentation; should turn in arm presentation; in my practice usually have not much difficulty in turning; never had any difficulty from presence of arm, but had difficulties from rigidity of os uteri; in present case, amputation did not do good; some advantage might be gained by amputating at the shoulder-joint; to relax, the use of chloroform and ether is not general in country practice; medical testimony as to their use is conflicting; weight of testimony is in favour of the use of ether more particularly; anæsthetics ease pain, and calm irritation; previous easy births is not certain evidence that children are born more readily afterwards; evidence is certain of a good pelvis; turning, when it was done, is evidence that it might have been accomplished previously; frequently it is a difficult matter to tell whether a child is living or not; testimony of mother useless; one positive proof, which is prolapsus of cord, when it is cold and pulseless; no use of amputating when it was done; arm cannot hook anywhere outside the vulva.

Cross-examined.—An exceptional case might arise, where turning could not be accomplished; prudent practitioner will rarely assume the responsibility alone.

Mrs. Keel.—Saw Mrs. C. after birth of child; seemed very weak; did

not see her previously; confined to bed about three weeks; was a woman of ordinary health.

McIntire Opening for Defendant.—Case in which we are now engaged presents many new features. It is a suit for malpractice. Such cases should never be brought into court. In obstetric cases they do not call in persons to witness what is going on; all such cases are very delicate, and should not be known outside the lying-in chamber. [Drs. Ebbert and M'Morris are both graduates in medicine, and have had over thirty years' experience in practice.] Dr. Ebbert went as a physician, feeling his full responsibility, and desired to do his duty; found her in labour; did all he could to deliver and relieve. All was done confidentially; none but those present knew of it. By request, he lay down to sleep. When called, he found arm down, and mouth of womb rigid. Then he resorted to relaxants, to reduce rigidity, so as to be able to turn, but could not do so, and the woman began to sink. After his efforts were fruitless, he called Colyer, and asked for another physician. Sent for Dr. P. McMorris. When he came, he found the contractions so powerful that he could not turn, after every effort, the woman flooding greatly; the object being to save the mother, they removed the arm, then there was room for the child to be turned, and it was born. The child was stillborn, but revived. Here was shown great care, from the fact that the child and the mother both lived. There was no suit brought until Mrs. C. was dead, because she would not hear of it. Under the circumstances, Drs. E. and M. did all they could. The case has no parallel on record, viz., arm presentation and pre-partum hemorrhage. Exhausting hemorrhage, and yet mouth did not relax, so that the hand could be introduced. Both are respectable physicians, having been many years in practice.

Mrs. Elizabeth Wilkinson, sworn.—Dr. E. attended me in confinements.

Defendants offer to prove by witness that Dr. E. attended in confinements; that there was in her case an arm or shoulder presentation, and that Dr. E. successfully turned the child and delivered, thus proving scientific knowledge and skill in profession, and his ability to perform the operation of turning.

Plaintiff objected.—It is a presumption of law that, where a man exercises a learned profession, he exercises it rightly and properly; and that this is an offer to prove an induction of law which exists without proof. That the question trying is, that whether in this particular case the defendants used ordinary skill and diligence in the delivery of the child, which cannot be established by proof of skill and diligence in another case.

Objection sustained; evidence must be confined to particular cases. Offer overruled, and exception noted.

Dr. David Gilbert, of Philadelphia, sworn.—I am a general practitioner, and have practised over thirty years; was a member of the faculty of the Medical Department of Pennsylvania College for fifteen years; during the first ten years occupied the chair of Surgery, and the last five the chair of Midwifery and the Diseases of Women and Children.

The testimony given declares this case to have been one of shoulder presentation. All presentations may be included under three general divisions, viz., of the head, the breech, and the shoulder. These each include different positions. Presentations of the head embrace nearly all the cases; the breech about one in fifty, and of the shoulder about one in two hundred and fifty births. Presentations of the shoulder are the most difficult, and, as a general rule, require the operation of turning, which is more or less

dangerous to mother and child, even when uncomplicated. In a very small proportion of this presentation the child may be delivered by the unaided powers of nature. *Spontaneous evolution* may take place; in this the shoulder and head rise up, and the breech comes down, and we then have a breech case; or the child may, when small, and pelvis roomy, be born without turning, by *spontaneous expulsion.* In this the shoulder keeps its place, whilst the contractions of the uterus force the breech down into the lower strait, and here again we have a breech case. These, however, constitute but a very small proportion of original shoulder presentations.

Hemorrhage before delivery complicated this case. This is one of the most dangerous complications of labour, rupture of the uterus only being equal to it. When there is bleeding before delivery, to any extent—I do not mean an ounce or two, which happens frequently—it is unmistakable evidence that a part or the whole of the placenta has become separated from the inner surface of the womb, to which it is attached. This opens the bloodvessels of the placenta, and the blood of the child escapes and endangers its life, and also opens the bloodvessels of the womb, through which the blood of the mother is lost, thus endangering the life of both from hemorrhage. This is the case in the most favourable presentations, hence, in arm presentations it is much more dangerous, because in this the delivery is not so fully under the control of the practitioner. It is necessary to deliver as speedily as possible, which cannot be so readily accomplished in this as in the other presentations. Statistics show a large proportion of deaths of both mother and child in pre-partum hemorrhage. I have had, since I have been in practice, three cases of hemorrhage before delivery, and have been called in consultation to three cases. In all of these the presentation was of the head, the most favourable, and yet four of the children and two of the mothers were lost. I was called to another case of a neighbouring practitioner, when I practised in the country, who could not be found, in consequence of which some four or five hours elapsed before I saw the patient; when I arrived, the woman was in a dying state; the child also perished. These were all cases of *accidental* hemorrhage.

The hemorrhage in this case now on trial was *accidental.* There are two varieties of pre-partum hemorrhage; the one is known as "*unavoidable hemorrhage,*" and occurs when the placenta is implanted over the mouth of the womb. When the body of the womb has enlarged in gestation, and its neck begins to expand, some portions of the placenta near the expanding neck become separated, and bleeding occurs, which is small at first. This takes place usually at the sixth month, occurring at intervals, and becoming more copious as the woman approaches her full term, and is then very dangerous. This is called *unavoidable,* because it will take place in every case in which the placenta is implanted over the mouth of the womb.

The other variety is called "*accidental hemorrhage,*" because it is the result of some producing cause in cases where the placenta is implanted in other parts of the inner uterine surface. It may be caused by partial contractions of the uterus—the result of blows, straining, or even mental emotion. This variety is less under the control of the practitioner, and hence more dangerous to both mother and child than *unavoidable* hemorrhage.

Bleeding before birth is very rare; probably, according to statistics, occurs only once in five or six hundred cases. Shoulder presentation complicated by pre-partum hemorrhage is unknown to authors so far as I have

made examination of their works. I have never met with such a case in practice, and have conversed upon the subject with some of our oldest practitioners, not one of whom ever has had or heard of this complication of shoulder presentation. This hemorrhage is so dangerous because it is necessary that a very large amount of blood be furnished by the system of the mother for the growth of the child, and the renewal of its blood. The child cannot be nourished through its stomach, nor is its blood changed from venous or black blood to arterial or red blood by its lungs. For the growth of the child and the renewal of its blood, the placenta or after-birth, as it is called, is provided. This, at or near birth, is about from six to eight inches in diameter, making an area of from thirty to fifty square inches, and is about an inch to an inch and a half in thickness. This is attached firmly to some part of the inner surface of the body or upper part of the womb. The child is connected to the placenta by the umbilical cord. In this cord there are three bloodvessels, two of which convey the venous or black blood from the child to the placenta, and when this becomes changed into arterial or red blood, it is conveyed back in the third vessel to the child. This circulation in the body of the child and the umbilical cord and placenta goes on continually. Anything which arrests it or interferes with it endangers the life of the child. This circulation of the infant is carried on by the action of the child's own heart, and is distinct from the circulation of the mother. The child's heart contracts 120 to 140 times in a minute; whilst the mother's heart contracts only from 60 to 80 times. There is no direct vascular connection between the blood-vessels of the mother and the child; that is, there is no direct opening of any bloodvessel of the womb or of the mother into any bloodvessel of the placenta. If there was such connection, less blood would suffice, and the danger from hemorrhage would be less. The changes which take place at the seat of union between the placenta and the inner surface of the womb are brought about by the process of absorption or imbibition on the part of the extreme terminal, capillary branches of the vessels of the cord; by which they take up oxygen from the blood of the mother very much like fishes take up oxygen by their gills from the water. In this way the infant's blood is renewed, and by a similar process of absorption nutritive particles are taken up from the blood of the mother. Now, in order to keep up this vitalized condition of the blood of the infant, and supply a portion, if not the entire nutriment of the infant, a large amount of blood must be continually circulated in that portion of the womb overlying the placenta, as well as in the womb generally. The womb has now grown, near the period of birth, from an ounce in weight before impregnation to from 24 to 30 ounces in weight—even after drained of blood. As the womb grows its bloodvessels, nerves, &c., enlarge with it; but especially its bloodvessels, which at the seat of the placenta are so large as to be called sinuses or pools containing blood. Into these sinuses the terminal branches of the placenta extend in the form of fringes, and in other places these vessels of the placenta interlock with terminal vessels of the uterus, and thus these tufts of vessels of the placenta, floating in these depots of blood, and other vessels interlacing with vessels of the womb, take up what is necessary for the life and sustenance of the child. When a separation takes place between the placenta and the womb, the delicate membranes which close up these sinuses containing the blood of the mother, and those which close up the vessels of the placenta, are torn, and large quantities of blood, especially from the mother's system, unavoidably escape, and speedily endanger her life. This

bleeding can only be arrested, so as to place the mother and child in a safe condition, by emptying the uterus of its contents. We may rupture the membranes, if not already ruptured, and discharge from a pint to a quart of water which surrounds the child, and thus, by securing partial contraction of the womb, diminish the size of the mother's bloodvessels, but not sufficiently to arrest the bleeding so as to place the woman in anything like a safe condition. The speedy delivery of the child under these circumstances *is the paramount duty of the attending physician.* When the womb is emptied it will contract, or may be made to contract; and by this process the muscular fibres of the uterus act as living ligatures to all its bloodvessels, and the woman is safe so far as bleeding is concerned, unless, as is occasionally the case, the womb becomes relaxed, and the vessels again open. In an ordinary case of labour, or in any one in which there is no bleeding before delivery, the placenta remains attached until the child is being born; and then as the womb contracts the placenta is safely thrown off, and the vessels are closed without any dangerous amount of bleeding. In exceptional cases where the womb does not contract properly there will be "hemorrhage after delivery"—"post-partum hemorrhage."

Emptying the uterus in every case as speedily as possible is the best means of arresting hemorrhage. There are no other means to arrest bleeding which can be fully relied on. One of the cases to which I was called, the physician, one of our most eminent men, had made use of the tampon; and I agreed to let this remain in the hope that coagula would form and arrest the hemorrhage, as the os uteri was firmly contracted. After some three or four hours, we were hastily summoned, the bleeding again appeared externally, passing by the tampon, labour came on more vigorously, the mouth of the uterus then began to dilate; and as soon as it was possible, we applied the forceps and delivered. The child was dead; and so large was the amount of blood which had been poured out *within the womb* that the patient never rallied. Rupturing membranes, astringents, tampon, &c., are not fully reliable in *accidental hemorrhage.*

It would not be proper to amputate the arm in an ordinary case of shoulder presentation. Should use the means detailed by Dr. Rutherford. Should wait, and can afford to wait, till os uteri is dilated, and then we can turn. It was stated by a medical witness that copious hemorrhage, as in this case, would necessarily relax the mouth of the womb so that the hand could be introduced and the operation of turning be performed. This does not accord with my experience. In several of the cases which I mentioned, notwithstanding the free, and in some cases fatal, bleeding from the uterus the mouth of the womb remained rigidly contracted. In one of the fatal cases to which I was called in consultation, the woman died undelivered about ten minutes after I arrived at her bedside. In this case there was no escape of blood from the womb at all, the bleeding was wholly internal, the abdomen was greatly enlarged, and the mouth of the uterus was closed. The physician in attendance informed me that she had been gradually sinking for four or five hours—that he suspected internal hemorrhage, but owing to the closed state of the mouth of the womb he could not resort to any forced means of delivery.

I would mention in connection with this that in concealed hemorrhage *after* delivery, the body of the womb fills up with blood, which is retained there by the rigid contraction of the mouth of the womb. In what we call incarcerated placenta, there is violent contraction, not only of the mouth of the womb, but also of central portions of the body of the womb;

this condition involves sometimes the loss of a large amount of blood, yet it is with great difficulty we can overcome this contraction, and deliver the placenta, in order to place the woman in a safe condition.

My friend Dr. Rutherford instanced a case of placenta prævia. In such cases the mouth of the womb is usually relaxed, and the hand can be introduced easily. The relaxation here I apprehend is generally present in this kind of cases, because the bleeding, which usually commences during the sixth month of pregnancy, continues more or less, and becomes more violent until the period for delivery arrives. This bleeding, kept up for a period of two or three months, from immediately within the inside of the mouth of the os uteri, no doubt weakens the muscular fibre of that portion of the womb, and prevents any forcible contractions.

I am aware that bleeding from the arm is practised in cases of rigidity of the womb; I have practised it myself in cases of full habit; but blood taken in this way from a distant part acts, as we say, derivatively, and may have an influence over the rigidity of the mouth of the womb, which bleeding from its own body may not have. It has appeared to me that in bleeding from the internal part of the body of the womb, the closure of the mouth of the womb is a blind effort of nature, or an abortive effort of nature to arrest the bleeding.

In the case under consideration, the bleeding belongs to the *accidental variety*, not the *unavoidable;* had it been the latter, the arm would not have protruded. It was also mentioned, and the impression seems to prevail generally, that the arm protruded outside of the parts of the mother, at least to the elbow. I have never seen a case in which the hand appeared externally during the first few hours after the arm was discovered to be in the passage. I have been called to cases in which labour existed, and the arm had passed through the mouth of the womb from twelve to eighteen hours, the labour very violent; in these the hand protruded up to the wrist; I mean from the external parts: usually the hand is within the vulva.

It was also stated that in these cases of arm presentation the womb was firmly contracted around the shoulder. Now, in such a case, where the womb is contracted around the shoulder, the woman must have been in labour, violently, for a great length of time, even several days, so that the child must have been, by the long-continued and violent labour, had its form changed from an ovoid to a globular form, and forcibly thrust down into the pelvis.

Dr. Gilbert here explained the position of the child as it lies across the great basin of the pelvis, by placing his open hands on the sides of the mouth of a pitcher which stood upon the council table. His hands represented the expanded iliæ, and the mouth of the pitcher the superior strait of the pelvis. He said that, whilst the head of the fœtal ovoid rested upon one wing of the haunch-bone, the breech rested upon the other, and the shoulder which presented was thrust firmly against the side of the brim of the pelvis. As the transverse diameter of the superior strait is usually over five inches, it follows that the distance from the brim to the os uteri, which occupies the centre of the plain of the superior strait, is two and a half inches, and allowing for its projection towards the centre of the cavity of the pelvis, the distance from the brim on either side of the mouth of the womb cannot be less than three inches. He contended that it followed, therefore, that the forearm only for the first five or six hours of ordinary labour protruded beyond the os uteri into the vagina, and

that, as stated, it was only after days of severe labour that the shoulder was thrust down into the mouth of the womb, as represented in ancient works, before the operation of turning was practised.

It has also been said that we had a certain remedy in anæsthetics for overcoming the rigidity of the mouth of the womb. I am sorry that I am again obliged to differ in the views expressed. Anæsthesia, in plain English, means insensibility, want of feeling, and in this consists its great value. The woman under its influence in labour is insensible to pain, but the uterine contractions go on; indeed it is the opinion of some who use it freely that it increases the actions of the womb. I agree with my friend, Dr. King, that no practitioner should be held responsible for omitting its use, since some of our most eminent writers and teachers in midwifery are averse to its use. I have used both ether and chloroform in surgical practice since their introduction, and occasionally in severe cases of midwifery, and have never met with any unpleasant results from their use. I have never used either in cases requiring operative procedures in midwifery which may involve rupture or other injury to the uterus.

This case was at first, to all appearance, an ordinary shoulder presentation, but the subsequent occurrence of hemorrhage converted it into one of the most dangerous in midwifery, to both mother and child. A case like this, without a known parallel in the annals of medicine or in the experience of practitioners, suddenly sprung upon a medical attendant, places him in a most trying position. When we consider the facts brought to light by the testimony—that the mouth of the uterus had firmly contracted around the presenting arm, that relaxing medicines had been administered during the interval from 4 to 11 o'clock A.M. without effect, that repeated efforts were made unsuccessfully to introduce the hand into the uterus by both physicians, and that the patient was rapidly sinking from loss of blood, which required vessels to be placed under the bed to receive it, I am forced to the conclusion that their prompt decision and speedy action in amputating the arm at the highest point within their reach, to increase the space in the os uteri for the introduction of the hand and effect speedy delivery, to save the almost bloodless mother, who was pleading for her life, was justifiable, and the result proves it; for in fifteen minutes after the amputation was performed, the child was turned, the mother delivered, and both lives saved. The success was such as is rarely had in ordinary shoulder presentations; for in these about one-half of the children are sacrificed, and in pre-partum hemorrhage in the most favourable presentations two-thirds of the children and one-third of the mothers usually are lost.

Cross-examined.—When there is hemorrhage we should deliver as soon as it possibly can be done without doing injury to the mother. If the os uteri is dilated or dilatable, I would deliver immediately when there is pre-partum hemorrhage. I would make frequent examinations and seize the first opportunity. In pre-partum hemorrhage saving the life of the mother is the first consideration, and the life of the fœtus, to a certain extent, must be disregarded. It is not easy to determine whether the child is living; when the abdomen of the child presents towards the abdomen of the mother the sounds of the fœtal heart are not easily heard. Very often, too, the circulation of the child is enfeebled, especially when it loses blood by separation of the placenta, and then it cannot be heard. Statistics show, and the presumption is, that a large majority of infants in pre-partum hemorrhage are dead.

Does not every respectable practitioner always draw off his coat before he attempts to turn? I do not, although it is recommended by most authors. It alarms the patient, who perhaps is already sinking from loss of blood, protracted labour, and mental emotion. I generally strip up my sleeves under the bedclothes, so that the patient is not aware of it.

If in arm presentation the os uteri is not contracted around the shoulder, why is it that the plates in the standard works on midwifery represent it thus (exhibiting a copy of a work on midwifery)? Answer. These plates are introduced here merely to show the different *positions* of shoulder presentations, and whilst they do this they are somewhat inaccurate in other points—that arm, for instance, is made to leave the body at about the third rib instead of the point of the shoulder, and it is, moreover, too long—if laid down along the side of the body it would reach below the knee. Hence it extends some distance out of the inferior strait of the skeleton of the pelvis; allow even here for the soft parts, and yet only half of the forearm protrudes. These plates are mostly copied from work to work, and so that they represent the different positions clearly, inaccuracies in other respects are disregarded.

(Dr. Gilbert by consent of court returned to the city.)

Dr. James Galbraith, sworn.—Have practised midwifery over thirty-seven years; have had arm presentations; none complicated with pre-partum hemorrhage; arm presentation with hemorrhage might prove fatal before it could be turned; was called to an ordinary case of arm presentation some thirty-two years ago in consultation; woman in labour 24 hours; physician in attendance had not been able to introduce hand, the os uteri was so firmly contracted around arm; we took off the arm at the shoulder; we then succeeded in turning; the child was dead, but the mother's life was preserved; I felt satisfied that the child was dead previous to the amputation.

In another case, which had been under the care of a midwife, I suppose, 24 hours. Tried to turn, but could not; woman was greatly exhausted; after using all justifiable effort in vain, I amputated arm at shoulder; I then was able to get my hand up, and delivered; would not bleed when there is exhaustion; was satisfied in this case that child was dead; do not think I could have delivered if arm had not been taken off; have turned frequently in arm presentation; the general rule is to turn; I have known women to die from mere exhaustion where there was little or no loss of blood.

From the evidence of the ladies in this case, I think Doctors Ebbert and McMorris were justifiable in taking the course they did; there was a necessity for prompt action; had they given relaxants and waited for further effects, the patient probably would have died undelivered.

Removing the arm where it was done was an advantage; taking off the arm, too, may have relieved compression of child's brain by a little loss of blood, and saved its life; arm presentations are always dangerous; child usually is lost.

Dr. S. Stites, of Perry Co., sworn.—Have practised 14 years; have had two cases of shoulder presentation, without pre-partum hemorrhage; never knew of such a case until I heard of this one; hemorrhage and contracted os uteri are not incompatible; in one of my cases I turned and delivered—the child was dead; in the other I could not turn; the case becoming serious, I had Dr. Case sent for, and we finally took off the arm at the shoulder, supposing the child to be dead, and then turned without difficulty; the woman died from exhaustion in five hours afterwards.

I have heard the testimony in this case, and believe that Drs. Ebbert and McMorris, under the circumstances, "done right in doing what they did."

Dr. J. H. Case, Liverpool, Perry County, sworn.—I have been a practitioner of medicine and midwifery about 38 years; have had two arm cases of my own; never had an arm case complicated with pre-partum hemorrhage; in such a case I would deem it my duty to cut off the arm and deliver woman as speedily as possible; hemorrhage is not likely to stop so long as child is in the womb; in one of my cases turned and delivered, child was dead—the woman recovered; the case was complicated by puerperal convulsions; failing to be able to turn, performed embryulcia; woman died in six hours afterwards; I was with Dr. Stites in the case detailed by him in his testimony; I heard the testimony in the case now before the court; from the condition of Mrs. Colyer, as described by the witnesses, I consider defendants justified in amputating the arm.

Dr. R. P. Hooke, of Perry County.—Heard evidence of ladies; from circumstances detailed consider defendants justifiable in amputating as they did.

Dr. D. B. Milliken, Landisburg, Perry County.—Practised 12 years; never have had or known of a case of arm presentation complicated by pre-partum hemorrhage; either by itself is dangerous—united must greatly increase the danger; have had two cases of shoulder presentation; in the first, the child was still-born—the mother recovered; in the second case did not succeed in turning, and the child was born by *spontaneous expulsion;* it did not live, but the mother recovered; heard the testimony in this case, and from this believe that the defendants were justified in performing the operation.

Cross-examined.—Removal of arm seldom necessary; I would amputate as high up as possible; if traction was used before operation, the stump would recede after the arm was amputated.

Dr. S. Tudor, of Perry County, affirmed.—Have practised for 33 years; never had shoulder presentation complicated with pre-partum hemorrhage; had one difficult case of this presentation in consultation; saw it 12 hours after arm presented; mouth of womb firmly contracted around arm, could not relax it nor introduce hand; remedies were used to relax without effect; bleeding and other usual remedies all failed; failed frequently to be able to introduce my hand, so also the practitioner whose case it was; woman became greatly prostrated; we agreed upon amputation of the arm, after which, with much labour, I succeeded in introducing my hand and turning; child was dead born, and woman died next day from rupture of the womb.

Heard most of the evidence given in this case; there being arm presentation, hemorrhage, and sinking, the defendants were justified in amputating the arm; think I would do so under similar circumstances.

Dr. J. E. Singer, of Newport, sworn.—I have been 30 years in practice; have had cases of arm presentation; never had arm presentation complicated with pre-partum hemorrhage; in one case spontaneous evolution took place; in another I was unable to turn, and after two other practitioners were called in, we decided that evisceration was the only means of saving the woman; she recovered.

I heard the evidence of the ladies in the case before court; hemorrhage occurring as it did, I would have resorted to any means to get the child away; I would bring the arm down as far as possible before amputating it.

Cross-examined.—Would not amputate arm simply to make room in the

vagina; hemorrhage is not of itself evidence of relaxation of the mouth of the womb.

Dr. Alfred Harman, of Carlisle, affirmed.—Have been 28 years in practice; never had a case of arm presentation complicated by pre-partum hemorrhage; this would be a most dangerous complication; heard the evidence of the ladies; from their statement the case was a desperate one. If I could not introduce my hand into the womb, I would cut the arm off, and thus save the life of the mother; I was subpœnaed by the plaintiff in this case.

Dr. S. B. Kieffer, Carlisle, sworn.—I am a physician and in practice for thirteen years, and, in a certain sense, about one year in hospital before that. My experience is, that the theories laid down in the books for the management of this particular form of presentation, in ordinary cases, as they present themselves to us, are correct, and also practicable. The indications are, after you have ascertained you have a presentation of hand, or shoulder with the hand; if called early, and a kindly disposed os uteri; if there are no undue contractions of muscular fibres of the womb before rupture of membranes, whether hand of child outside of the cavity or not, by taking proper position relative to your patient, and by carefully introducing hand to os uteri, and persevering, you can almost always get hold of feet and deliver. Have had some, but not very much experience in arm presentations. Had two of my own, and called in consultation three times. First case called early; membranes entire; os uteri pretty well dilated; fingers of the child projected about an inch and a half; lady in labour about nine hours. Had great difficulty to determine whether it was hand or foot; concluded to wait a few minutes so as to determine. Soon was a severe pain, and arm came down to elbow outside of womb, not outside of body. I immediately anointed my hand and arm, passed it up by side of child without any difficulty; passed readily into womb; grasped feet and delivered. Child dead; patient recovered. Second case: Sent for in consultation. Had been in labour for hours. Hand in vagina nearly to external parts. Proceeded to turn; did so without difficulty. Child living and patient recovered. Third: Was called about six or seven miles from town. Labour had existed for about twenty-one hours; she was nervous; examined; found shoulder presentation. Soon it changed to neck, shoulder, and head. Os uteri about size of half dollar, firm and rigid. Thought I would wait and would see; os uteri did not dilate any. Gave an enema of very warm water. Could not bleed, patient was worn down already. Applied warm fomentations, and ordered hip-bath, and did succeed in relaxing patient's system, but "the mouth of the womb remained as firm as cartilage." I then first introduced my hand into vagina, and endeavoured to introduce my hand into os uteri, but os uteri firm and unyielding. Gave morph. freely, and ipecac.; repeated warm hip-bath. Remained until evening. In evening os uteri was somewhat dilated. I only now could determine presentation; again introduced hand. Failed in getting my hand into womb. Dr. Dale came. Said, "Doctor, turn the child." After half an hour's perseverance by Dr. D., he failed. Next morning we sent for Dr. Bachman. Told him our trouble. He tried to turn. Could not. What was done? Patient seemed to fail; indications of insanity. Finally perforated head. Patient very ill for a week, but finally recovered.

Dr. K. prefers amputation an inch or an inch and a half below the shoulder-joint, if he cannot get up farther.

Dr. Samuel Stites recalled.—Had a conversation with Colyer about his

bringing this suit. I cannot give the exact wording. We met in the court-house yard on day before yesterday. I asked him if he was encouraged by any physicians to bring this suit, and he said he had talked with Dr. Rutherford, from Harrisburg, and the doctor had told him that these defendants were guilty of malpractice, and that Dr. R. said he could prosecute or could get damages from these men, viz., Drs. Ebbert and McMorris. He told me others advised him, but did not mention names.

Defendants close.

Plaintiff's rebutting evidence.—Dr. Rutherford recalled. Perhaps between six and seven years ago, Colyer came to me, stated case. I replied I could not give him any opinion until I knew all the facts. Had no conversation with Colyer since that time. Dr. R. continued to talk for some time, during the course of which he said he would not hold a country physician responsible for not using anæsthetics. If a man is only called upon once or twice in his lifetime to turn a child, he is not responsible for his failure. It cannot be expected that he should be able to do so. Though the doctor had said that the practice of amputation had long since been abandoned, and another practice "fixed over the whole civilized world," yet he stated that he *had* performed the operation during the last ten years, and went on to describe it, and the facility with which it could be done, even within the uterus, at the shoulder-joint. In one case he said he amputated the arm in order to get room. Where arm is amputated the universal experience of the world is that the child is born dead.

After hearing Dr. Rutherford, one of the plaintiff's counsel rose and admitted that from the testimony given the weight of evidence was against them; that under the present aspect of the case he would not ask a jury for a verdict, though he believed that he and his colleague had done everything which lay in their power to gain the cause for their client, and ask the court to permit them to take a *non-suit.*

Judge Graham, in reply, stated that in his opinion the case had been managed with great ability on both sides, and that everything had been done which could have been expected. But as to the aspect of the case, he coincided with the opinion just expressed by plaintiff's counsel, and accordingly directed a non-suit to be entered.

ART X.—*Description of a Syringe for Washing the Auditory Canal.* By W. S. W. RUSCHENBERGER, M. D., U. S. Navy. (With two woodcuts.)

WASHING out the ear with a syringe of a capacity of one or two ounces is attended with sufficient inconvenience to create some reluctance to resort to the operation. The liquid returned from the meatus almost always soils the clothing of the patient, in spite of a guard of towels placed around the patient's neck. Then it is sometimes necessary to fill the syringe and insert it into the ear many times, always at the risk of giving pain, especially when the instrument is used by an unskilled hand. Even when assisted by the ear-spout and syringe described by Mr. Joseph Toynbee, in his excellent work on "The Diseases of the Ear," there is required a vessel from which to fill the syringe, and a basin is to be held to receive the washings.